

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number
WO 2005/006668 A1

(51) International Patent Classification⁷: **H04L 12/56**

(21) International Application Number:
PCT/GB2004/001999

(22) International Filing Date: 7 May 2004 (07.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0315758.3 4 July 2003 (04.07.2003) GB
0315969.5 8 July 2003 (08.07.2003) GB

(71) Applicant (for all designated States except US): **BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY** [GB/GB]; 81 Newgate Street, London, Greater London EC1A 7AJ (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **TATESON, Jane, Elizabeth** [GB/GB]; 145 High Street, Wickham Market, Woodbridge, Suffolk IP13 0RD (GB).

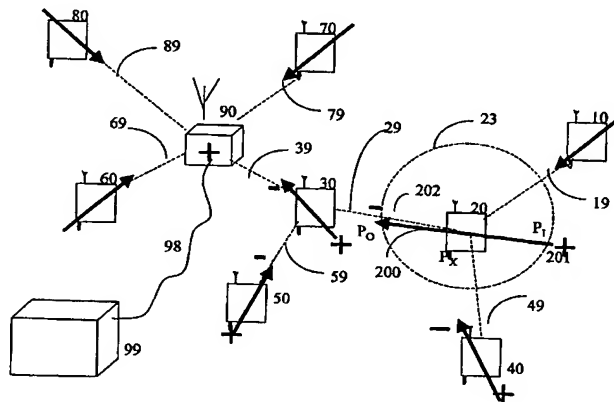
(74) Agent: **LIDBETTER, Timothy, Guy, Edwin**; BT Group Legal Intellectual Property Department, PP: C5A, BT Centre, 81 Newgate Street, London, Greater London EC1A 7AJ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: **AD HOC COMMUNICATIONS SYSTEM**



(57) Abstract: A number of data collection devices (10, 20, 30, 40, 50, 60, 70, 80), are free to move relative to each other through their environment, collecting data from their environment. They form an ad hoc wireless network (19, 29, 39, 49), etc in which data collected by a device (20) either by its own sensors (23), or relayed from another device (10) is transmitted to a destination (90) either directly or by means of one or more other devices (30). The destination (90) collects data collected by the mobile terminals (10, 20, 30) etc for subsequent processing. The wireless links (19, 29, 39) etc between them have to re-arranged in order to provide the optimum network. When two devices (20, 30) come into proximity to each other, a forwarding direction (200) is determined to identify to which device (30) data should be forwarded. The devices co-operate to define their forwarding directions by exchanging data relating to their physical locations, and factors such as the spare capacity of their buffer stores, and battery condition. Thus a network (19, 29, 39) etc will be defined dynamically, each device having its forwarding direction (200) aimed in the direction of the next device until they reach a sink.

WO 2005/006668 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.